

The Office Action

Claims 1-40 were rejected under 35 U.S.C. §103(a) as being unpatentable over JP 08302316 (Yoshitaka et al.).

The Rejection Under 35 U.S.C. §103(a)

The Examiner has rejected claims 1-40 under 35 U.S.C. §103(a) as being unpatentable over JP 08302316 (Yoshitaka et al.). The Examiner provides the following as a basis for her rejection:

Yoshitaka et al '316 teaches rubber base adhesive compositions comprising a solvent component and a rubber component (resin). The solvent component does not require the use of volatile and flammable solvents. The solvents are present in an amount of about 50% by weight. Yoshitaka et al '316 disclose the use of solvents such as aliphatic hydrocarbons, acetone, ethyl acetate, propyl acetate, 1,1,1-trichloroethane, and methylene chloride. As the rubber component, Yoshitaka et al '316 disclose the use of rubbers such as chloroprene, styrene butadiene, butyl rubber, polyurethane, etc.

Yoshitaka et al '316 differ from the instantly claimed invention in that while the reference teaches the use of non-volatile solvents similar to those instantly claimed by the Applicant, the reference does not specifically teach some of Applicants' claimed solvents. For example, Applicants' claim the use of n-propyl bromide (bromopropane), methylene chloride and acetone as volatile solvents which Yoshitaka et al '316 specifically teach. With respect to Applicant's claimed n-alkane (C12-C18), Yoshitaka et al '316 broadly teach the use of aliphatic hydrocarbons which embrace Applicants claimed n-alkane (C12-C18). Applicants' claim the use of methyl acetate and t-butyl acetate, while the reference teach the use of ethyl acetate and propyl acetate. One of ordinary skill in the art would expect that Applicants' claimed methyl acetate and t-butyl acetate, both being similar to the acetates of the reference, would be suitable to use in such environmentally friendly compositions.

(Office Action of November 15, 1999, at pages 2-3)

The Examiner then concludes the following:

Since the reference teaches solvents similar to those instantly claimed and since the reference teaches the use of solvents which are non-volatile and non-flammable, just as Applicant, it would have been obvious to one of ordinary skill in the art to make a composition consisting essentially of a solvent component and a resin component, wherein the solvent component comprises only solvents which are non-volatile and non-flammable. Yoshitaka et al '316 seeks to solve the same environmental problems, concerning the use of environmentally harmful solvents, as Applicants. Acknowledging the problems arising from the use volatile solvents, it would have been obvious to one of ordinary skill in the art to use only non-volatile solvents such as those instantly claimed by Applicant in such compositions. While Yoshitaka et al '316 may not list the exact non-volatile solvents as Applicant claims, Yoshitaka et al '316 provides the motivation to use such non-volatile solvent in his disclosure that volatile solvents create environmental problems.

(Office Action of November 15, 1999 at pages 3-4)

Applicant submits that while the Yoshitaka et al. reference discloses various solvents used in solvent compositions, the solvent system of Yoshitaka et al. requires a major portion of n-propyl bromide or isopropyl bromide to be "environmentally friendly". The various additional solvents mentioned by Yoshitaka et al. are not specifically disclosed as being environmentally safe or "friendly". In fact, a number of solvents referred to by the Examiner and disclosed by Yoshitaka are not considered to be environmentally safe and are actually volatile organic solvents.

For example, ethyl acetate and propyl acetate (both of which are disclosed by Yoshitaka) and even n-butyl acetate are considered to be volatile organic solvents. (See specification at p. 2, lines 7-19 and especially lines 29 and 30 where ethyl acetate and butyl acetate are disclosed as VOC's). However, methyl acetate and t-butyl acetate (not disclosed by Yoshitaka) are zero-VOC solvents according to the present application.

Similarly, Yoshitaka et al. discloses a number of other VOC solvents which are to be combined with a major portion of either n-propyl bromide or isopropyl bromide. VOC solvents disclosed by Yoshitaka which are specifically listed in the instant application's specification as VOC solvents (page 2) include (in addition to ethyl acetate) toluene, methyl ethyl ketone and hexane. Although Yoshitaka et al. does include some solvents in the supplementary solvents (at p. 4-5) which are specifically disclosed in the present application

as zero-VOC solvents, Yoshitaka et al. makes no distinction in the supplementary solvents as to whether they are VOC or zero-VOC. As such, Yoshitaka does not provide any motivation to select a zero-VOC solvent as a supplementary solvent which is to be used as the major solvent in a solvent/resin composition. At best, Yoshitaka et al. considers all of the supplementary solvents equivalent and useful *in combination* with the major component of n-propyl bromide or isopropyl bromide.

In addition, Applicant has submitted a Declaration Under 37 C.F.R. §1.131 to antedate the Yoshitaka et al. reference (published less than one year prior to the effective filing date of the present application). The Examiner has indicated that the Declaration is effective for removing Yoshitaka et al. as prior art with respect to the disclosure in Yoshitaka directed to n-propyl bromide as a solvent. As such, the applicability of Yoshitaka against any of the claims directed to use of n-propyl bromide should be overcome. Please note that claims 9, 11-16, 21, 22, 28, and 35-38 are directed to having n-propyl bromide (1-bromopropane) as a zero-VOC solvent. Thus, at least the aforementioned claims should be free of the Yoshitaka et al. reference as prior art.

Applicant contends that Yoshitaka et al. fails to provide motivation to use zero-VOC solvents (other than n-propyl bromide) over VOC solvents in resin formulations for the reasons set forth above. Because Applicants have removed Yoshitaka et al. as prior art with respect to n-propyl bromide, there is simply no teaching or suggestion in Yoshitaka which renders obvious the use of any of the remaining claimed zero-VOC solvents as effective zero-VOC solvents in a resin composition. At best, Yoshitaka et al. would motivate one of ordinary skill in the art to use *any* of the additional solvents listed in Yoshitaka as a *supplemental solvent* to n-propyl bromide or iso-propyl bromide, without regard as to whether it is zero-VOC or not. The only feature provided by Yoshitaka with respect to the supplemental solvents is that they not adversely affect the n-propyl bromide solvent. In fact, the only examples in Yoshitaka which contain supplemental solvents (Examples 2, 3 and 4) each use a VOC solvent (hexane for examples 2 and 3 and methyl-ethyl ketone for Example 4). These are specifically taught as VOC solvents in the present application at page 2. As such, Applicants submit that Yoshitaka et al. fails to recognize the utility of the claimed solvents (other than n-propyl bromide) as zero-VOC solvents in solvent resin compositions.